REMARKS

This is intended as a full and complete response to the Office Action dated March 16, 2005, having a shortened statutory period for response set to expire on June 16, 2005. Please reconsider the claims pending in the application for reasons discussed below.

Claims 1-4 and 6-35 remain pending in the application and are shown above. Claims 5 and 32 have been canceled by Applicants. Claims 1-4, 6-14, 16-18, 28-31, and 33-35 are rejected. Claims 5, 10, 15, 19-27, 31, and 32 are objected to by the Examiner. Reconsideration of the rejected claims is requested for reasons presented below.

In the specification, paragraphs [0038] and [0043] have been amended to correct minor editorial problems. Applicants submit that the changes made herein do not introduce new matter.

The Examiner has indicated that claims 5, 15, and 32 are objected to as being dependent upon a rejected base claim but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicants have amended claim 1 to include the subject matter of claim 5 and have canceled claim 5. Applicants have amended claim 28 to include the subject matter of claim 32 and have canceled claim 32. Applicants submit that the changes made herein do not introduce new matter. Applicants respectfully request allowance of claims 1 and 28. Applicants submit that claim 15 is patentable for the reasons discussed below with respect to claim 9, upon which claim 15 depends.

Claims 9 and 10 are amended to clarify the invention. Claims 15, 19, 23, 24, and 31 are amended to more clearly recite the claimed subject matter. Applicants submit that the changes made herein do not introduce new matter.

Applicants have added new claim 36. Applicants submit that the changes made herein do not introduce new matter. Applicants submit that new claim 36 is allowable for the reasons discussed below with respect to claim 1.

Claim 10 is objected to under 37 CFR § 1.75 (c) for failing to further limit the subject matter of a previous claim. Applicants submit that the objection to claim 10 is moot in view of the amendment to claim 10. Applicants respectfully request withdrawal of the objection to claim 10.

Claims 19, 23, and 31 are objected to. The Examiner asserts that the phrase "about 0.84 or greater" is indefinite. Applicants have amended claims 19, 23, and 31 to replace the phrase "about 0.84 or greater" with "about 0.84 to about 0.99." Applicants respectfully request withdrawal of the objection to claims 19, 23, and 31.

Claims 1, 4, 6-8, 28, 31, and 33-35 stand rejected under 35 U.S.C. § 102(e) as being anticipated by *Sohn* (U.S. Patent No. 6,475,888). Applicants have amended claim 1 to include the subject matter of claim 5, which the Examiner has indicated is allowable. Applicants have amended claim 28 to include the subject matter of claim 32, which the Examiner has indicated is allowable. Applicants submit that *Sohn* does not teach or suggest laser annealing a substrate, wherein the laser annealing comprises scanning the substrate with a line of continuous wave electromagnetic radiation. Thus, *Sohn* does not teach, show, or suggest a method of processing a substrate, comprising depositing a layer comprising amorphous carbon on the substrate, and then laser annealing the substrate, wherein the laser annealing comprises scanning the substrate with a line of continuous wave electromagnetic radiation, as recited in amended claim 1. Applicants respectfully request withdrawal of the rejection of claim 1 and of claims 4 and 6-8, which depend thereon.

Furthermore, *Sohn* does not teach, show, or suggest a substrate, processed by a method comprising depositing a layer comprising amorphous carbon on the substrate, and then laser annealing the substrate, wherein the laser annealing comprises scanning the substrate with a line of continuous wave electromagnetic radiation, as recited in amended claim 28. Applicants respectfully request withdrawal of the rejection of claim 28 and of claims 31 and 33-35, which depend thereon.

Claims 9, 28, and 29 stand rejected under 35 U.S.C. § 102(a) as being anticipated by KR 375 093 B, published March 8, 2003. KR 375 093 B describes laser beam irradiating a fluorinated amorphous carbon film. Applicants respectfully submit that KR 375 093 B does not describe depositing a layer comprising amorphous carbon and nitrogen on a substrate and then laser annealing the substrate. Thus, KR 375 093

B does not provide or suggest all of the limitations of amended claim 9. Applicants respectfully request withdrawal of the rejection of claim 9.

Regarding claim 28, Applicants have amended claim 28 to include the subject matter of claim 32, which the Examiner has indicated is allowable. Applicants respectfully request withdrawal of the rejection of claim 28 and of claim 29, which depends thereon.

Claims 2 and 3 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Sohn* in view of *Bailey, et al.* (U.S. Patent No. 5,569,501). Applicants note that claims 2 and 3 include the limitations of claim 1. As discussed above, *Sohn* does not provide or suggest all of the limitations of claim 1. Applicants further submit that *Bailey, et al.*, individually or in combination with *Sohn*, does not provide or suggest all of the limitations of claim 1, as *Bailey, et al.* does not teach or suggest laser annealing a substrate, wherein the laser annealing comprises scanning the substrate with a line of continuous wave electromagnetic radiation. Applicants respectfully request withdrawal of the rejection of claims 2 and 3.

Claims 9, 14, and 16-18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Sohn* in view of KR 375 093 B. As discussed above, KR 375 093 B does not describe or suggest depositing a layer comprising amorphous carbon and nitrogen on a substrate and then laser annealing the substrate. Applicants further submit that *Sohn*, individually or in combination with KR 375 093 B, does not teach or suggest depositing a layer comprising amorphous carbon and nitrogen on a substrate and then laser annealing the substrate.

Thus, *Sohn* in view of KR 375 093 B does not teach, show, or suggest a method of processing a substrate, comprising depositing a layer comprising amorphous carbon and nitrogen on the substrate, and then laser annealing the substrate with a laser, wherein the layer absorbs electromagnetic radiation emitted by the laser and transfers thermal energy created by the absorbed electromagnetic radiation to the substrate, as recited in claim 9. Applicants respectfully request withdrawal of the rejection of claim 9 and of claims 14 and 16-18, which depend thereon.

Claims 9-11, 12, 28, and 30 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Brown, et al.* (U.S. Patent No. 6,559,017), in view of *Sohn*. The

Examiner states that *Brown, et al.* teaches depositing a layer comprising amorphous carbon and nitrogen on a substrate and then rapidly thermally annealing the substrate to activate dopants in the substrate. The Examiner asserts that it would be have obvious to use laser annealing, as taught by *Sohn*, for annealing the amorphous carbon layer of *Brown, et al.*

Applicants have amended claim 9 to clarify that the amorphous carbon layer absorbs electromagnetic radiation from the laser annealing and transfers thermal energy to the substrate. *Brown, et al.* describes a structure including amorphous carbon spacers 200 that may include nitrogen on top of a substrate 120. *Brown, et al.* also describes thermally annealing the structure to activate dopants in source and drains regions 130, 140 of the substrate. As shown in Figure 4 of *Brown, et al.*, the source and drain regions 130, 140 are not located underneath the amorphous carbon spacers 200. Applicants submit that there is no teaching or suggestion in *Brown, et al.* to use the amorphous carbon spacers as a layer to absorb electromagnetic radiation and transfer thermal energy to the underlying substrate.

Sohn describes using an amorphous carbon layer to absorb laser energy and transfer the absorbed energy to an underlying substrate to activate dopants therein. However, *Sohn* does not teach or suggest using a doped amorphous carbon layer or a nitrogen-containing amorphous carbon layer to absorb laser energy and transfer the absorbed energy. Applicants submit that there is no motivation or suggestion in the combination of *Brown, et al.* and *Sohn* to use the nitrogen-containing amorphous carbon material that *Brown, et al.* provides for spacers as the laser energy absorbing and transferring layer of *Sohn*.

Thus, *Brown, et al.* in view of *Sohn* does not teach, show, or suggest a method of processing a substrate, comprising depositing a layer comprising amorphous carbon and nitrogen on the substrate, and then laser annealing the substrate with a laser, wherein the layer absorbs electromagnetic radiation emitted by the laser and transfers thermal energy created by the absorbed electromagnetic radiation to the substrate, as recited in claim 9. Applicants respectfully request withdrawal of the rejection of claim 9 and of claims 10-12, which depend thereon.

Regarding claims 28 and 30, Applicants have amended claim 28 to include the subject matter of claim 32, which the Examiner has indicated is allowable. Applicants respectfully request withdrawal of the rejection of claim 28 and of claim 30, which depends thereon.

Claim 13 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over *Brown, et al.* in view of *Sohn*, and further in view of *Bailey, et al.* Claim 13 includes the limitations of claim 9. As discussed above, *Brown, et al.* in view of *Sohn* does not provide or suggest all of the limitations of claim 9. *Bailey, et al.* describes a method of depositing a diamond-like carbon film. However, *Bailey, et al.* does not describe or suggest using a doped amorphous carbon layer or a nitrogen-containing amorphous carbon layer to absorb laser energy and transfer the absorbed energy. As *Brown, et al.* in view of *Sohn*, and further in view of *Bailey, et al.* does not provide all of the limitations of claim 9, *Brown, et al.* in view of *Sohn*, and further in view of *Bailey, et al.* does not provide all of the limitations of claim 13. Applicants respectfully request withdrawal of the rejection of claim 13.

In conclusion, the references cited by the Examiner, alone or in combination, do not teach, show, or suggest the invention as claimed.

The secondary references made of record are noted. However, it is believed that the secondary references are no more pertinent to the Applicants' disclosure than the primary references cited in the office action. Therefore, Applicants believe that a detailed discussion of the secondary references is not necessary for a full and complete response to this office action.

Having addressed all issues set out in the office action, Applicants respectfully submit that the claims are in condition for allowance and respectfully request that the claims be allowed.

Respectfully submitted,

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